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- Published:**
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: EMULSIONS FOR COMPOSITE MATERIALS

(57) Abstract: Emulsions are provided which are useful in imparting water-resistance to lignocellulosic composite products. In one embodiment, the emulsions comprise at least one wax, an alkyl phenol, a salt of polynaphthalenesulfonic acid, and a complexed starch. Emulsions of this embodiment may be added to hot, even boiling, water without the emulsion separating or curdling. The emulsions of the present invention are stable for extended periods of time when stored at room temperature, do not require the addition of a bactericide, and are pourable liquids at room temperature.

WO 2004/044086 A1

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/17877

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C09K 3/18

US CL : 516/39, 41, 77; 106/2, 271, 272, 822; 428/292.4

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 516/39, 41, 77; 106/2, 271, 272, 822; 428/292.4

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, Y	WO 03/0004433 A1 (BRODEN CHEMICAL, INC.) 16 January 2003 (16.01.2003), see entire document.	1-18 & 24-28
Y	US 5,120,355 A (IMAI) 09 June 1992 (09.06.1992), see column 1, lines 40-52; column 3, line 54, to column 4, line 59, particularly lines 61 and 14-15; and examples.	1-18 & 20-32
Y	US 6,165,261 A (WANTLING) 26 December 2000 (26.12.2000), see entire document.	1-18 & 20-32
Y	US 6,251,979 B1 (LUONGO) 26 June 2001 (26.06.2001), see column 12, lines 32-40 and 61 et seq..	1-18 & 20-23
Y	US 6,231,656 B1 (DEKERF et al.) 15 May 2001 (15.05.2001), see entire document, particularly abstract; columns 5-7; example 2; and claims 14-17.	20-23 and 29-32
Y	US 6,287,495 B1 (ROSTHAUSER) 11 September 2001 (11.09.2001), see abstract column 1, lines 18-35 and 60-65; column 3, lines 6-13 and 35-41; and column 11, lines 42-48.	20-23 and 29-32
Y	US 6,066,201 A (WANTLING) 23 May 2000 (23.05.2000), column 2, lines 35 et seq.; column 3, lines 55-67; and column 5, lines 28-37.	1-18 and 20-32
A	US 4,421,704 A (REILY) 20 December 1983 (20.12.1983), column 2, lines 11-60, particularly lines 24-25, 49-50 and 53-60.	1-19

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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INTERNATIONAL SEARCH REPORT

PCT/US03/000077

Continuation of B. FIELDS SEARCHED Item 3:

USPAT, USPGPUB, USOCR

search terms:methylene near3 alkyl near3 phenol, C?sub?? near4 alkyl near4 phenol, (alkylphenol phenol) near3 (aldehyde formaldehyde), wax near3 emulsion, borate, borax, corn adj flour, starch, cellulos\$3, lignocellulos\$3, water adj repellant, fiber\$6, strand adj board